

# PATENT ABSTRACTS OF JAPAN

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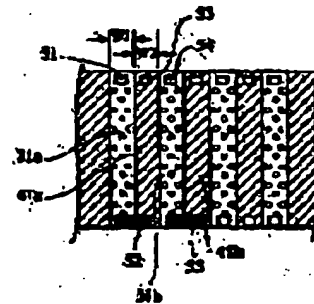
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## (54) SEMICONDUCTOR DEVICE AND ITS MANUFACTURE

### (57)Abstract:

**PROBLEM TO BE SOLVED:** To reduce the error of the total resistance value of polycrystalline silicon resistors composed of polycrystalline silicon films and diffusion resistors composed of diffusion layers connected in series resulting from the error of the forming accuracy of the resistors by forming the diffusion resistors by introducing an impurity into a substrate by using the polycrystalline silicon resistors formed on an insulating film as a mask.

**SOLUTION:** Diffusion resistors 41a are formed by implanting impurity ions into a substrate by using polycrystalline silicon resistors 31a as a mask. When the widths W1 of the resistors 31a become wider than a desired value, the widths W2 of the diffusion resistors 41a formed by using the resistors 31a as a mask become narrower unless the absolute forming area of the resistor elements 41a and 31a changes. Even when the widths W1 become narrower than the desired value and a error occurs in the forming accuracy of the resistors 31a and 41a, the sum of the widths W1 and W2 always become constant. Consequently, even when the cross-sectional areas of the resistors 31a decrease or increase due to the forming error, the cross-sectional areas of the resistors 41a which are used in paired states with the resistors 31a increase or decrease. Therefore, the total resistance value of the resistors 31a and 41a connected in series offsets the forming error and approaches a desired value.



## LEGAL STATUS

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